Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.64

Ecochain

Product:	3010965 - Ed Tech Branch Reduced HTEA 45° 110x75
Unit:	1 piece
Manufacturer:	Wavin - IT - SM Maddalena

PP SWR (ED Tech) products made of PP for waste water discharge are the ideal solution for anyone who wants a quick and easy connection system. A push-fit system, made watertight using elastomeric seals. Triple-layer pipes, with a white inner layer for easier inspection. Low linear expansion.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	24-11-2022
End of validity:	24-11-2027
Verifier:	Martijn van Hövell - SGS Search

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An Orbia business.

SGS SEARCH

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - IT - SM Maddalena (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.40E-1	3.81E-2	3.75E-2	6.15E-1	7.00E-3	3.97E-1	3.45E-3	-3.31E-1	6.91E-1
GWP-f	kg CO2 eq	6.41E-1	3.81E-2	3.21E-2	7.11E-1	7.00E-3	2.74E-1	3.45E-3	-3.75E-1	6.20E-1
GWP-b	kg CO2 eq	-1.02E-1	2.31E-5	2.71E-3	-9.88E-2	4.25E-6	1.23E-1	3.04E-6	4.44E-2	6.83E-2
GWP-luluc	kg CO2 eq	5.04E-4	1.35E-5	2.71E-3	3.23E-3	2.48E-6	3.92E-5	5.98E-8	-4.27E-4	2.84E-3
ODP	kg CFC11 eq	3.57E-8	8.78E-9	3.22E-9	4.77E-8	1.61E-9	5.76E-9	8.72E-11	-1.99E-8	3.53E-8
AP	mol H+ eq	2.59E-3	2.17E-4	1.29E-4	2.93E-3	3.99E-5	2.41E-4	2.09E-6	-1.20E-3	2.02E-3
EP-fw	kg P eq	1.36E-5	3.14E-7	4.99E-7	1.45E-5	5.76E-8	1.15E-6	2.74E-9	-8.08E-6	7.59E-6
EP-m	kg N eq	4.73E-4	7.77E-5	2.19E-5	5.73E-4	1.43E-5	7.33E-5	1.64E-6	-2.35E-4	4.28E-4
EP-T	mol N eq	5.24E-3	8.56E-4	2.46E-4	6.34E-3	1.57E-4	8.06E-4	8.46E-6	-2.64E-3	4.67E-3
POCP	kg NMVOC eq	2.20E-3	2.45E-4	7.63E-5	2.52E-3	4.49E-5	2.50E-4	3.17E-6	-1.06E-3	1.76E-3
ADP-mm	kg Sb eq	3.93E-5	9.86E-7	7.82E-7	4.10E-5	1.81E-7	9.27E-7	2.10E-9	-3.59E-6	3.86E-5
ADP-f	MJ	2.10E+1	5.85E-1	4.23E-1	2.20E+1	1.07E-1	7.09E-1	6.37E-3	-1.09E+1	1.20E+1
WDP	m3 depriv.	4.24E-1	1.80E-3	1.49E-1	5.76E-1	3.30E-4	1.40E-2	3.30E-5	-2.39E-1	3.51E-1
PM	disease inc.	2.69E-8	3.44E-9	1.30E-9	3.17E-8	6.32E-10	3.80E-9	4.38E-11	-1.35E-8	2.26E-8
IR	kBq U-235 eq	1.89E-2	2.56E-3	3.94E-4	2.18E-2	4.70E-4	2.20E-3	2.97E-5	-8.34E-3	1.62E-2
ETP-fw	CTUe	1.05E+1	4.75E-1	6.67E-1	1.16E+1	8.72E-2	9.47E-1	6.18E-3	-5.11E+0	7.54E+0
HTP-c	CTUh	2.27E-10	1.69E-11	3.55E-11	2.79E-10	3.10E-12	9.74E-11	1.58E-13	-1.18E-10	2.62E-10
HTP-nc	CTUh	5.26E-9	5.66E-10	7.37E-10	6.56E-9	1.04E-10	1.23E-9	3.65E-12	-2.71E-9	5.19E-9
SQP	Pt	1.15E+1	5.00E-1	7.70E-2	1.21E+1	9.19E-2	5.52E-1	1.63E-2	-1.57E+1	-2.88E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.97E+0	8.39E-3	1.46E+0	3.44E+0	1.54E-3	3.40E-2	2.51E-4	-2.69E+0	7.93E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.97E+0	8.39E-3	1.46E+0	3.44E+0	1.54E-3	3.40E-2	2.51E-4	-2.69E+0	7.93E-1
PENRE	MJ	2.26E+1	6.21E-1	4.61E-1	2.36E+1	1.14E-1	7.55E-1	6.76E-3	-1.17E+1	1.28E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.26E+1	6.21E-1	4.61E-1	2.36E+1	1.14E-1	7.55E-1	6.76E-3	-1.17E+1	1.28E+1
PET	MJ	2.45E+1	6.29E-1	1.92E+0	2.71E+1	1.16E-1	7.89E-1	7.01E-3	-1.44E+1	1.36E+1
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	7.34E-3	6.62E-5	3.55E-3	1.10E-2	1.22E-5	4.94E-4	7.86E-6	-4.39E-3	7.07E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.09E-6	1.50E-6	4.11E-7	7.00E-6	2.75E-7	1.25E-6	7.68E-9	-3.98E-6	4.55E-6
NHWD	kg	4.04E-2	3.63E-2	4.00E-3	8.06E-2	6.66E-3	3.58E-2	2.80E-2	-1.54E-2	1.36E-1
RWD	kg	2.03E-5	3.98E-6	4.38E-7	2.47E-5	7.31E-7	2.83E-6	4.16E-8	-8.00E-6	2.03E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0